

## **ABSTRACT OF THE DISCLOSURE**

The invention relates to an inertial sensor based on the magnetic levitation of an inertial mass comprising an active magnetic bearing unit arranged in such a way as to levitate the inertial mass and characterized by the fact that it furthermore comprises additional active magnetic bearings units arranged in such a way as to control the position of the inertial mass along three independent axis and to create, for any of these three independent axis, restoring forces that can be oriented in any of the two directions of these independent axis.